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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,264

07/31/2003

Michael K. T. Lee

112-0127US

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08/28/2006

WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI,
L.L.P.

20333 SH 249

SUITE 600

HOUSTON, TX 77070

EXAMINER

TRAN, MICHAEL THANH

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,264

Applicant(s)

LEE ET AL.

Examiner

Michael t. Tran

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 31-2003 through June 27, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 10 and 20 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


MICHAEL T. TRAN
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In response to the Communications dated July 31, 2003 through June 27, 2006, claims 1-20 are active in this application.

Election

2. Christopher Keirs made a provisional election without traverse to prosecute the invention of Group 1 directed to Data Preservation, claims 1-10 and 17-20. Affirmation of this election was made in the response to the restriction requirements.

3. Claims 11-16 are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the **cancellation** of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Claim Objections

5. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It appears that the phrase "voltage booster" in several claims does not have proper antecedent basis.

Claim Rejections – 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. [U.S. Patent # 6,514,781] in view of Chen et al. [U.S. Patent # 6,473,361].

Chang et al. disclose a circuit for delaying power interruption to a memory device comprising: a power supplying [either 320 or ground can be interpreted as being the power supply] having an output connected to the memory device [601]; a charge-storing device [300] connected to the output of the power supply [via 350 or ground can be interpreted as being the power supply]; and, a DC-to-DC converter [330] connected at its input to the charge-storing device [via 350] and the power supply [320 or ground can be interpreted as being the power supply] and connected at its output to the memory device [via 323] such that upon interruption of the power supply, the charge-storing device provides sufficient input voltage to the DC-to-DC converter to provide rated output to the memory for a time sufficient for the memory device to complete a write cycle.

Chang et al. discloses all of the above mentioned but is silent about the fact that the memory is used as a non-volatile application. However, this claimed limitation is not new. Chen et al. disclose the MEMs can be used for nonvolatile application [see abstract and columns 1-3]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chang et al. MEMS memory circuit element to include the MEMS element as taught by Chen et al., since the modification is merely a substitution of a functionally recognized equivalent element. Further, the MEMs elements of Chen et al. not only improve the performance of the device, but also a necessity for the functionality of the device. It is also noted that a flash memory is a nonvolatile memory.

8. Claims 2-5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. [U.S. Patent # 6,514,781] in view of Chen et al. [U.S. Patent # 6,473,361] and Weimer et al. [U.S. Patent # 5,850,113].

The combination of Chang et al. and Chen et al. disclose a circuit for delaying power interruption to a nonvolatile memory device comprising: a power supplying [either 320 or ground can be interpreted as being the power supply] having an output connected to the nonvolatile memory device [601]; a charge-storing device [300] connected to the output of the power supply [via 350 or ground can be interpreted as being the power supply]; and, a DC-to-DC converter [330] connected at its input to the charge-storing device [via 350] and the power supply [320 or ground can be interpreted as being the power supply] and connected at its output to the nonvolatile memory

device [via 323] such that upon interruption of the power supply, the charge-storing device provides sufficient input voltage to the DC-to-DC converter to provide rated output to the nonvolatile memory for a time sufficient for the nonvolatile memory device to complete a write cycle. It is noted that the charge-storing device within Chang et al. depicts a capacitor [344].

Both Chang et al. and Chen et al. discloses all of the above mentioned but are silent about the fact that the charge-storing device [capacitor within 300] is an electrolytic capacitor, a super capacitor, or a plurality of capacitors connected in parallel. However, this claimed limitation is not new. Weimer et al. disclose, in the 5th paragraph of the "Background of the Invention" section, that the capacitor element can be substituted with functionally equivalent elements such as electrolytic capacitor, super capacitor, or connect a plurality of capacitor in series or parallel. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chang et al. capacitor element to include the capacitor elements as taught by Weimer et al., since the modification is merely a substitution of a functionally recognized equivalent element. Further, the capacitor elements of Weimer et al. not only improve the performance of the device, but also a necessity for the functionality of the device.

9. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. [U.S. Patent # 6,514,781] in view of Chen et al. [U.S. Patent # 6,473,361].

Chang et al. disclose a method of supplying power to a memory device comprising: providing a charge-storing device [300]; connecting the input of a DC-to-DC converter [330] to the charge-storing device [via 350]; and, connecting the output of the DC-to-DC converter to the memory device [via 323].

Chang et al. discloses all of the above mentioned but is silent about the fact that the memory is used as a non-volatile application. However, this claimed limitation is not new. Chen et al. disclose the MEMs can be used for nonvolatile application [see abstract and columns 1-3]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chang et al. MEMS memory circuit element to include the MEMS element as taught by Chen et al., since the modification is merely a substitution of a functionally recognized equivalent element. Further, the MEMs elements of Chen et al. not only improve the performance of the device, but also a necessity for the functionality of the device.

10. Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. [U.S. Patent # 6,514,781] in view of Chen et al. [U.S. Patent # 6,473,361].

Chang et al. disclose a method of supplying power to a memory device comprising: providing a regulated power from a power supply [either 320 or ground can be interpreted as being the supply]; storing electrical charge [via 300] from the power supply in a charge-storing device [indirectly associated with the supply] transferring the stored electrical charge upon interruption of the power supply to the input of a DC-to-DC

converter at a potential sufficient to operate the DC-to-DC converter [via Vclamp]; and supplying regulated DC power [via 330] from the output of the DC-to-DC converter to the memory device for a time sufficient for the memory device to complete a full write cycle.

Chang et al. discloses all of the above mentioned but is silent about the fact that the memory is used as a non-volatile application. However, this claimed limitation is not new. Chen et al. disclose the MEMs can be used for nonvolatile application [see abstract and columns 1-3]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chang et al. MEMS memory circuit element to include the MEMS element as taught by Chen et al., since the modification is merely a substitution of a functionally recognized equivalent element. Further, the MEMs elements of Chen et al. not only improve the performance of the device, but also a necessity for the functionality of the device.

Allowable Subject Matter

11. Claims 17-19 are allowable over the prior art of record.

12. The following is an Examiner's statement of reasons for the indication of allowable subject matter: the prior art of records does not show (in addition to the other elements in the claim) the following:

- Inductor connected in parallel with the DC-to-DC converter.
- A diode at the input of the charge-storing device connected such that the flow of electric current from the charge-storing device to the power supply is prevented.


- Determining whether a control signal sent to the non-volatile memory device is a reset signal; and delaying the control signal if the control signal is a reset signal for time sufficient for the non-volatile memory device to complete a memory write cycle.

Conclusion

13. When responding to the Office action, Applicants are advised to provide the Examiner with line and page numbers of the application and/or references cited to assist the Examiner in the prosecution of this case.

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael T. Tran whose telephone number is (571) 272-1795. The Examiner can normally be reached on Monday-Thursday from 7:30-6:00 P.M.

15. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1650.


Michael T. Tran
Art Unit 2827
August 20, 2006

MICHAEL TRAN
PRIMARY EXAMINER